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Review Chapter 8 and 9 Quest

**SECTION 8.1 MOLECULAR COMPOUNDS**

**1.** Classify each of the following as an atom or a molecule.

**a.** Be **c.** N2 **e.** Ne

**b.** CO2  **d.** H2O

**2.** Which of the following are diatomic molecules?

**a.** CO2  **c.** O2 **e.** CO

**b.** N2 **d.** H2O

**3.** What types of elements tend to combine to form molecular compounds?

**4.** What information does a molecule’s molecular structure give?

**5.** How do ionic compounds and molecular compounds differ in their relative melting and boiling points?

**SECTION 8.4 POLAR BONDS AND MOLECULES**

**1.** What type of bond—nonpolar covalent, polar covalent, or ionic—will form

between each pair of atoms?

**a.** Na and O **b.** O and O **c.** P and O

**2.** Explain why most chemical bonds would be classified as either polar covalent or ionic.

**3.** Would you expect carbon monoxide and carbon dioxide to be polar or nonpolar molecules?

**4.** Draw the structural formulas for each molecule and identify whether the compound is polar or nonpolar.

**a.** NH3   **b.** CH4

**5.** Which would you expect to have the higher melting point, CaO or CS2?

**SECTION 9.3 NAMING AND WRITING FORMULASFOR MOLECULAR COMPOUNDS**

**1.** Name the following molecular compounds.

**a.** PCl5 **c.** NO2 **e.** P4O6 **g.** SiO2

**b.** CCl4 **d.** N2F2 **f.** XeF2 **h.** Cl2O7

**2.** Write the formulas for the following binary molecular compounds.

**a.** nitrogen tribromide **c.** sulfur dioxide

**b.** dichlorine monoxide **d.** dinitrogen tetrafluoride

**SECTION 9.4 NAMING AND WRITING FORMULAS FOR ACIDS AND BASES**

**1.** Name the following compounds as acids.

**a.** HNO2 **b.** H2SO4 **c.** HF **d.** H2CO3

**2.** Write the formulas for the following bases.

**a.** calcium hydroxide **c.** aluminum hydroxide

**b.** ammonium hydroxide **d.** lithium hydroxide